Before the
Federal Communications Commission
Washington, DC 20554

In the Matter of		
Application by BellSouth Corporation for Authorization Under Section 271 of the Communications Act to Provide In-Region, InterLATA Services in the States of Georgia and Louisiana	)	CC Docket No. 01-277

DECLARATION OF MICHAEL R. BARANOWSKI
ON BEHALF OF AT&T CORP.

TABLE OF CONTENTS

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DECLARATION OF MICHAEL R. BARANOWSKI
ON BEHALF OF AT&T CORP.

Based on my personal knowledge and on information learned in the course of my duties, I, Michael R. Baranowski, declare as follows:

1. My name is Michael R. Baranowski. I am Managing Director of FTI/Klick, Kent & Allen, Inc., a subsidiary of FTI Consulting, Inc. ("FTI/KKA"). FTI/KKA is an economic and financial consulting firm with offices at 66 Canal Center Plaza, Suite 670, Alexandria VA, 22314. In that position, I conduct economic and cost analysis for a variety of clients. Since 1996, I have been directly and continuously involved in interconnection agreement arbitrations and other network element rate proceedings before state public utility commissions. In that regard, I am familiar with the cost models submitted by BellSouth Telephone Company ("BellSouth") and other incumbent local exchange carriers. I am submitting this declaration at the request of AT&T.

I. PURPOSE AND OVERVIEW OF TESTIMONY.

2. The unbundled network element ("UNE") rates upon which BellSouth's Section 271 Application for Georgia and Louisiana are premised are substantially inflated above TELRIC levels due to numerous material violations of the Commission's TELRIC pricing rules. The Commission's rules require that "total long-run incremental cost [TELRIC] of an element should be measured based on the use of the most efficient telecommunications technology currently available and the lowest cost network configuration, given the existing location of the incumbent LEC's wire centers." 47 C.F.R. §51.505(b)(1). BellSouth's Georgia and Louisiana cost models do not comply with these principles.

3. My analysis of the cost models, pleadings and declarations filed in this proceeding shows that BellSouth's Georgia loop cost models rely on an impermissible reproduction approach, are based on outdated data, use backward-looking assumptions for key loop components and improperly rely on BellSouth's embedded plant. In addition, the cost models used to develop BellSouth's Georgia switch rates rely on non-TELRIC principles to compute switch discounts.[1] The rate inflation caused by all of these loop and switch specific TELRIC errors is compounded by BellSouth's use of overstated loading factors.

4. My analysis of BellSouth's Louisiana cost study shows that many of the same TELRIC errors that exist in its Georgia cost model also exist in the Louisiana cost models. BellSouth's Louisiana cost models rely on non-TELRIC assumptions to compute loop and switch rates, including backward-looking assumptions relating to IDLC and other key cost

[1] As explained in the declaration of Michael Lieberman, these TELRIC-violations have resulted in Georgia switch rates that are significantly higher than those in other Section 271-approved states. *See* Lieberman Decl. ¶¶ 6 & 9. Even BellSouth has effectively conceded that its switch

components. And, as with Georgia, these TELRIC violations are compounded by BellSouth's use of overstated non-TELRIC loading factors in Louisiana.

II. BELLSOUTH'S GEORGIA AND LOUISIANA UNE RATES ARE MASSIVELY INFLATED BY THE USE OF NON-TELRIC LOADING FACTORS.

5. BellSouth's Georgia and Louisiana cost models rely on material loading factors to account for certain element costs that its cost models do not directly estimate. The loading factors are estimated percentages of total costs that are attributable to components such as company labor, engineering, and exempt materials (*e.g.* drops, and NIDs). These percentages are then applied to the direct cost estimates. As I demonstrate below, the methodology used in BellSouth's cost models to compute loading factors violates TELRIC principles by basing those factors on BellSouth's embedded network and by double counting the costs of certain items. When these loading factors are applied to BellSouth's direct loop and switch costs, they inflate those rates above TELRIC levels and compound the effects of the other TELRIC errors in BellSouth's cost models.

6. All of BellSouth's Georgia and Louisiana loading factors are based exclusively on embedded cost data and, therefore, reflect only the costs of BellSouth's embedded network, not the costs of an efficient forward-looking network.[2] For example, by relying on its historical experience rebuilding it embedded network, BellSouth fails to capture the labor efficiencies that would be available to a new facilities-based provider of local telephone service. These

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rates are inflated by advocating much lower Georgia switch rates in an ongoing state UNE pricing proceeding. *See* Lieberman Decl. ¶ 6.

[2] The Florida Public Service Commission, in reviewing the same loop cost model that BellSouth submitted in Louisiana, stated that "it appears that BellSouth's use of linear loading factors [are] . . . easy for BellSouth to apply [but] . . . can generate questionable results." *Investigation into*

efficiencies include reduced travel times for material, personnel and equipment because new poles would be placed sequentially (not on an ad hoc basis around existing plant). Similarly, new switching equipment would be placed in new central offices designed specifically to accommodate that equipment, which would eliminate the need for costly efforts to install replacement digital switches in facilities originally designed for analog switches. And BellSouth preserves its historic conduit cost ratios per pair even though it assumes placement of forward-looking fiber technologies that increase the "per pair" capacity of a conduit by several orders of magnitude. BellSouth develops its conduit loading factor as the ratio of its embedded conduit investment to its underground cable investment. In doing so, BellSouth has failed to account for the fact that the copper/fiber breakpoint in a forward-looking study would be lower than the breakpoint implicit in the embedded network, *i.e.* more fiber cable would be used. Fiber cable requires less conduit space because, unlike copper cable which generally consumes an entire 4-inch duct, up to three fiber cables can be run through a 4-inch duct, reducing the amount of conduit needed. A correct forward-looking design therefore would size conduit based on the amount and type of underground cable needed for the forward-looking network with more fiber and less copper cable. BellSouth's cost model does not do this and, as a result, assumes oversized (and more expensive) conduit that would exist in a forward-looking network.

7. The most egregious example of inflated loading factors, however, is in BellSouth's engineering, furnishing and installation cost loading factors that are applied to aerial and buried metallic cable. These loading factors are computed as the ratio of company labor, engineering and exempt materials to the amount of non-exempt materials in each account. In

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pricing of unbundled network elements at 237, Docket No. 990649-TP, Order No. PSC-01-1181-FOF-TP (Issued May 25, 2001).

BellSouth's cost study, engineering accounts for a disproportionate percentage of the overall loading factor, which reflects the added costs of rebuilding small segments of the embedded plant. The Commission's Synthesis Model allows a loading factor of 6 percent to account for engineering. But BellSouth's embedded cost loading factors for these two cable accounts averages approximately 42 percent and 13 percent of installation labor for Georgia and Louisiana respectively. BellSouth has offered no valid justification for this huge difference. Correcting for this error by conservatively reducing embedded labor and engineering costs by 25 and 50 percent respectively reduces Georgia statewide average loop rates by over 6 percent and by approximately three percent in Louisiana.

8. In addition, BellSouth's Louisiana loading factors appear to double-count inflation. BellSouth's Louisiana loading factors account for inflation to material costs on a forward-going basis for three years. At the same time, however, BellSouth's cost study adjusts its return on this material investment using the nominal cost of capital, which also reflects inflation. By accounting for inflation both in the material price (through loading factors) and again in the calculation of the return on investment, BellSouth's Louisiana cost model is double counting inflation, a clear TELRIC violation. That TELRIC error inflates BellSouth's Louisiana costs by at least another 3%.

9. In a similar fashion, BellSouth's Georgia and Louisiana cost models appear to double count certain items that are recovered through loading factors. BellSouth's loading factors include an allowance for exempt materials which are miscellaneous material items for which the unit costs are too small to warrant tracking under a separate account or subaccount. For the aerial and buried cable accounts, drops and NIDS are typically recorded as exempt

materials.[3] BellSouth develops its loading factors for the aerial and buried cable accounts by including all items with each field reporting code ("FRC") account designation – which includes costs for drops and NIDs. But BellSouth's workpapers contain no adjustment to remove drop and NID cost from the exempt materials account before computing the loading factor. Without such an adjustment, it appears that both drop and NID costs are double counted within BellSouth's loop costs. Once as part of the cable material load factor and again as part of a specific cost model input to the cost study. That TELRIC error may inflate BellSouth's loop prices in Georgia by at least 18% and by at least 5% in Louisiana.

10. Overall, I estimate that BellSouth's loading factors alone result in overstated loop and switch rates of at least 24% in Georgia and 10% in Louisiana.

III. BELLSOUTH'S GEORGIA AND LOUISIANA SWITCHING RATES ARE MASSIVELY INFLATED BY TELRIC ERRORS.

11. *Daily Usage Feed.* A key component of BellSouth's Georgia and Louisiana total switch related cost is the daily usage feed (or "DUF") charge. The DUF charge is a fee that BellSouth and some other BOCs charge CLECs for information regarding CLECs' usage. CLECs can use that information to verify the accuracy of BellSouth bills and as a basis for billing their own customers. BellSouth currently charges, on average, an incredibly high recurring monthly charge of $2.96 and $2.43 per line for that information in Georgia and Louisiana respectively. *See* Lieberman Decl. ¶¶ 4 & 11.

[3] A drop is a length of cable, typically two to five pair cable, that connects the outside plant distribution facility to the customer location. The NID, or network interface device, is a small box, typically hung on the outside of the customer premises, that represents the demarcation between the telephone outside plant and the customer owned facilities.

12. There is no question that BellSouth's Georgia and Louisiana DUF charges are vastly overstated. BellSouth itself has effectively conceded in the current and ongoing Georgia UNE pricing case that a TELRIC-compatible DUF charge should be no higher than $1.40. *See* Lieberman Decl. ¶ 11. And I understand that even that rate is too high. Verizon's DUF charge, for example, is $0.55 and $0.20 in Pennsylvania and New York respectively. *See id.* Put simply, BellSouth's DUF charges exceed cost-based levels by as much as an order of magnitude.

13. *Switch Discounts.* BellSouth's Georgia switch rates are further inflated by its failure to apply proper discounts when computing switch costs. Forward-looking cost studies assume a "scorched-node" environment where the only elements of BellSouth's embedded Georgia network are the locations of existing wire centers. *Local Competition Order* ¶ 685. In particular, the rates for network elements should be "based on costs that assume that wire centers will be in place at the incumbent LEC's current wire center locations, but . . . the reconstructed local network will employ the most efficient technology for reasonably foreseeable capacity requirements." *Local Competition Order* ¶ 685. All assets necessary to service demand for telecommunications in the BellSouth Georgia service territory would therefore have to be newly purchased. It is precisely for this reason that the Commission specifically rejected incumbent LEC arguments that "costs associated with upgrading switches" should be included in its Synthesis Model and instead held that forward-looking switching costs should be determined using newly purchased switches efficiently sized to meet existing demand. *Inputs Order* ¶ 315.

14. BellSouth violates this fundamental TELRIC principle by computing switch discounts based on the assumption that there is a "mix of new and growth switch purchases" by BellSouth, and that the "majority of switch-related purchases made by BellSouth are to support growth in existing switches." *See* Caldwell ¶ 85. That assumption grossly understates the switch

discounts that should be reflected in a forward-looking cost model. Indeed, BellSouth concedes that "[v]endors often offer substantially higher discount rates for new switch installations." *See id.*

15. BellSouth has not provided any details relating either to new or growth switch equipment discounts for which it is eligible. Comparison to switch prices obtained by U.S. West, Southwestern Bell, Pacific Bell and Sprint, however, provide evidence that BellSouth's model significantly overstates switch prices – prices these companies have achieved are 40% - 70% lower that those BellSouth's model generates.[4] Depending on the level of the available new switch discount, BellSouth's use of growth discounts is likely to overstate its Georgia switching costs by more than 50%.

16. *Decreased Costs.* BellSouth's Georgia switching costs are also based on vastly outdated data and therefore fail to reflect cost reductions that have occurred over time. The Georgia switching rates are based on 1997 cost studies which are based on even older data. Since that time technological advances in telecommunications equipment have made the provisioning of outside telephone plant more efficient and less costly on a per line basis. There have been improvements in digital loop carrier equipment that have moved the efficient breakpoint for provisioning with fiber feeder ever closer to the central office, reducing the amount of copper feeder invested required in the outside plant. Customer demand has also increased since the mid-1990's, which has created economies of scale in the outside plant facility by allowing more customers to share outside plant cable and structure. Because the BellSouth cost studies rely on outdated data, none of these added efficiencies are incorporated into the

[4] August 29, 1997 Rebuttal Testimony of Catherine E. Petzinger in Docket No. 7061-U, pages 12 – 17.

costs. As such, these costs are overstated. As explained in the Declaration of Michael Lieberman (¶ 7), switching costs appear to have fallen by 40% since 1996.

IV. BELLSOUTH'S LOUISIANA AND GEORGIA UNE LOOP RATES ARE INFLATED BY SEVERAL TELRIC VIOLATIONS.

17. *Integrated Digital Loop Carrier Equipment.* BellSouth's Georgia and Louisiana cost models assume that BellSouth's network uses *no integrated digital loop carrier ("IDLC")* when computing the cost of unbundled loops.[5] That is an outdated assumption and significantly overstates BellSouth's loop rates. There is no question that IDLC equipment is far more efficient and far less costly to use than universal digital loop equipment ("UDLC"). That is because IDLC, unlike UDLC, it is connected directly to the switching system so that digital signals from customers do not have to be converted back to analog signals.[6]

18. BellSouth defends its failure to use *any* IDLC equipment in computing its cost of unbundled loop on the grounds that when its cost studies were developed "IDLC loops [could not] . . . be separated from the switch" and therefore "were not suitable" for providing unbundled network elements. *See* BellSouth Br. at 46. That is neither true nor relevant. The issue in this proceeding is whether BellSouth's rates are TELRIC-compliant today. It is well established that IDLC equipment can (and is) used today by LECs to provide both bundled and unbundled loops efficiently. A brief comparison of UDLC to the most efficient forward-looking IDLC systems illustrates this point.

19. In a UDLC system, analog signals originating from a customer's telephone are converted to a digital signal at a Remote Terminal ("RT") and transported by the digital carrier

[5] *See, e.g.*, Caldwell Aff. ¶ 51; GPSC 1997 Order at 47.

[6] *See* Caldwell Aff. ¶ 51.

system to the Central Office Terminal ("COT"). At the COT, the signal is converted from digital to analog and is then terminated on the Main Distribution Frame ("MDF"). Because virtually all switches deployed today are digital, the analog signal from the MDF must be cabled to the Analog Port of the switch, where the signal is again converted to digital format so that it can be processed by the digital switch. This UDLC system is less than efficient for several reasons. The back-to-back digital/analog conversions are unnecessary, cumbersome and degrade transmission quality, and this impairment to the channel will increase as advanced modem technology challenges the capability of the network. In addition, the multiple signal conversions require additional line cards and other equipment.

20. By contrast, in an IDLC system, the analog signal generated at the customer's telephone is converted to digital form at the RT. The digital signal is transported by the digital carrier system to the Central Office and terminated directly to the switch without any need for further conversion. The integration of digital switching and digital transmission facilities in an IDLC system generates substantial operational and equipment savings, including: the elimination of digital/analog conversion at the COT, the elimination of costs for the extra equipment used in UDLC signal conversion, the elimination of labor costs associated with terminating and cabling the MDF, reduced risk of potential equipment failure resulting from cross-wiring activity on the MDF, and improved overall transmission quality.

21. The most efficient, forward-looking Digital Loop Carrier technology that is currently available is an IDLC system that utilizes a Time Slot Interchanger (TSI) feature and interfaces to the Local Digital Switch ("LDS") via the GR-303 interface. The TSI feature allows the pathing of any circuit in the RT to appear on any DS1 interface group in the Central Office. This feature enables the grooming of non-switched/special services, as well as the unbundling of

circuits. The GR-303 interface allows concentration by assigning on a "per call basis," rather than using numerous dedicated channels. Put another way, this efficient forward-looking technology can be used to provide both unbundled loops, as well as UNE-P loops. Thus, GR-303 IDLC is substantially less costly than UDLC, deploys fewer facilities, is more efficient in its use of switch ports, and is capable of unbundling and grooming circuits via remotely provided OSS instructions.

22. The impact of BellSouth's failure to properly incorporate IDLC and GR303 into its network has been estimated by the GPSC to be at least $0.89 in Georgia.[7] But BellSouth's rates implicitly suggest that the cost of not using IDLC and GR303 are much higher. BellSouth's Georgia rate for a UNE loop/port combination $14.34. *See* 2000 GPSC Order at 20. However, BellSouth's average recurring charge for purchasing an unbundled loop and port separately is $18.36 (16.51 for the loop plus $1.85 for port). BellSouth defends this enormous difference between these two rates on its assumption of IDLC when computing UNE loop combinations. Thus, according to BellSouth's own rates, the rate inflation caused by its failure to assume the use of IDLC for computing unbundled network elements is $4.02. A similar discrepancy exists in Louisiana.[8] BellSouth's failure to use IDLC in computing unbundled loop rates has substantially inflated its loop rates.

23. Even aside from the serious loop rate inflation caused by BellSouth's failure to incorporate IDLC with GR303 technology into its cost models for computing unbundled loop

[7] The GPSC's 2000 UNE combinations order found that adjusting BellSouth's cost model to account for 98 percent IDLC and 20 percent GR-303 (up from 49 percent IDLC and 1 percent GR-303) results in a total cost savings of $0.89. *See* GPSC 2000 Order at 20.

[8] For example, in zone 1, the unbundled cost of a loop and a port is $14.42, whereas the loop/port combination price is only $11.77. The difference is $2.65. *See* LPSC 2001 Order, Rate Attachment.

costs, there are numerous other state specific TELRIC errors that inflate BellSouth's Georgia and Louisiana loop rates.

24. *Impermissible Reproduction Approach To Network Architecture And Design.* The Commission's rules require that "total long-run incremental cost [TELRIC] of an element should be measured based on the use of the most efficient telecommunications technology currently available and the lowest cost network configuration, given the existing location of the incumbent LEC's wire centers." 47 C.F.R. §51.505(b)(1). As the Commission has recognized this requires the "replacement cost" estimation methodology that economists and regulators have long recognized best replicates competitive market outcomes. Under that approach, the cost estimator designs the most efficient network capable of delivering the relevant functionalities without regard to the design, architecture and technologies employed in the existing network.

25. BellSouth's Georgia UNE loop cost models violate that fundamental TELRIC principle. BellSouth frankly concedes that its cost model computes many critical inputs based on a small *sample* of BellSouth's *existing* network. *See* BellSouth Br. at 45; Caldwell Aff. ¶ 54; *see also* GPSC 1997 Order at 34. In the state pricing proceeding, the GPSC noted that the sample "excluded approximately 20 percent of [BellSouth's Georgia] loop," GPSC 1997 Order at 35, and that most of the loops excluded were BellSouth's shorter (*i.e.*, less costly) Georgia loops. *See id.* at 35. "Omitting so many of these types of loops for the cost study contributed to overestimating BellSouth's loop costs." *See id.* To address this obvious error, the GPSC ordered BellSouth to adjust its sample results to reflect the shorter lines that BellSouth originally excluded from its cost study. *See id.* at 36.

26. However, the corrections implemented by the GPSC do not address the fact that BellSouth's cost study still computes costs based on the sampling characteristics of its *embedded* network and not on a forward-looking network. By computing key loop characteristics such as cable routes, typical cable sheath sizes and proportions, structure mix requirements, bridge tap requirements, and feeder/distribution interface locations based on BellSouth's embedded network, BellSouth's cost model essentially computes the costs of replacing its existing network rather than reproducing its network based on forward-looking architecture and design principles. As discussed above, that methodology contravenes the Commission's TELRIC rules and inflates costs.

27. BellSouth has urged the Commission to ignore its impermissible reproduction approach to computing loop costs. First, BellSouth asserts that its sampling methodology produced shorter average cable lengths than alternative TELRIC-compatible methodologies and, therefore, claims that its sampling approach still produced least-cost loop estimates. *See* Madam/Dirmeier Aff. ¶¶ 20-23. Second, BellSouth claims that its reproduction approach is not important because BellSouth's loop rates are lower than those produced by the competing TELRIC-compliant cost models. *See* BellSouth Br. at 50-51. Both assertions are false.

28. First, even if BellSouth's assertion regarding loop lengths were true, that would not solve the many other problems with using an embedded methodology to compute loop characteristics. As explained above, BellSouth also relied on its embedded (and flawed) sample to develop inputs for typical sheath sizes and proportions, structure mix requirements, bridge tap requirements, and feeder/distribution interface locations – loop length is only one component of that sample that is used to compute loop costs. *See id.* Relying on BellSouth's embedded network to compute the other factors still results in significantly overstated, non-cost-based rates

in Georgia. For example, as customer demand has expanded over time, BellSouth would serve additional demand by building out the existing route structure. That set of piecemeal additions to an existing route initially designed to serve a different area of demand, is not likely to use the most efficient means of serving that demand. Yet that is the network that BellSouth's cost model sampled, and therefore, the network upon which its UNE loop rates are based.

29. Another example of the inefficiencies that flow from BellSouth's non-TELRIC loop sampling methodology is BellSouth's sample loop study results in cost being based on the assumption that bridged taps are used on BellSouth's network. That assumption is not TELRIC-compliant. Bridged taps would not be used in a forward-looking network because of their debilitating effect of signal and transmission quality. Loop length is only one of many cost drivers developed by BellSouth's flawed sampling methodology. BellSouth's cost model has produced radically higher rates than the other cost models that BellSouth purports have lower loop lengths. AT&T, MCI and other parties have relied on two separate cost models – Hatfield Model Release 3.1 and Hatfield Model Release 4.0.[9] The Hatfield Model Release 3.1 produced the lowest average loop length.

30. BellSouth's second claim – that its reproduction approach is not important because BellSouth's loop rates are lower than those produced by the competing TELRIC-compliant cost models – is also not true. In the Georgia state UNE pricing proceeding, the cost model advocated by AT&T, WorldCom and other parties, called the Hatfield Model 4.0, produced average loop rates (for 1997) of $14.33. That is more than $2.00 *lower* than the

[9] The Hatfield Model Release 3.1 relied on average loop lengths of 17,599.93 ft. (or approximately 3,5000 feet shorter than that adopted by the GPSC), *see* Caldwell Decl., Exhibit GCG-3 and the Hatfield Model Release 4.0 relied on average loop lengths of 23,071 feet. *See id.* The average loop length in BellSouth's cost model – according to BellSouth was 21,012 feet.

average UNE loop rate of $16.51 approved by the GPSC. However, BellSouth hired an outside consulting firm to radically change the inputs used in the Hatfield Model which resulted in increased costs estimates of over $28.00. It is that radically changed version of the Hatfield model – not the cost model advocated by AT&T, WorldCom and other parties – that BellSouth claims produced higher UNE loop rates than those adopted by the GPSC. Thus, BellSouth's claim that the Commission should ignore its non-TELRIC loop sampling methodology because it produced lower rates than those advocated by other parties in the Georgia state UNE proceeding is unavailing. In any event, all of the rates proposed by BellSouth in that proceeding contained numerous TERLIC-violations (including the use of BellSouth's loop sample) and cannot be relied upon for making rate comparisons.

31. In this regard, it is telling that BellSouth has abandoned the sampling methodology used to develop its Georgia rates. In fact, one day before filing its Georgia Section 271 Application, BellSouth filed new UNE rates with the GPSC – in a new UNE rate proceeding – that uses an entirely new loop cost model that does not rely on a poor sample of BellSouth's embedded network.

32. It is impossible to determine the amount by which BellSouth's unlawful use of the loop sample inflated its loop costs. The loop sample was the foundation on which BellSouth's loops were computed and, therefore, it cannot simply be replaced with an alternative to identify the overstatement in costs.

33. *Drop Length.* BellSouth computes drop wire costs for Georgia using an estimated length of 300 feet for drop wire that is buried in the ground and 200 feet for aerial drop wire. BellSouth's sole support for its estimated drop lengths is a single page, handwritten list of drop

lengths for the nine states in its region.[10] Even if that list were sufficient to correctly identify BellSouth's actual drop lengths in Georgia, those drop lengths are based on BellSouth's embedded plant. A forward-looking methodology should at least recognize that increases in the number and proximity of residences, as well as increases in the ratio of businesses to residences decreases drop lengths on a forward-looking basis.

34. In any case, national data strongly suggests that BellSouth's Georgia loop estimate is vastly inflated. The national average drop length is 73 feet.[11] Thus, even if the average drop length in Georgia were double the national average, BellSouth's cost model would still overstate the average drop length by as much as 100 percent. Thus, by overstating drop length, BellSouth overstates loop costs by at least 5 percent.

35. *Decreased Costs.* The Georgia loop rates are based on cost studies performed four years ago. These studies rely heavily on key information relating to service costs and demand that stretches back to before 1997. Since the time of the study, technological advances in telecommunications equipment have made the provisioning of outside telephone plant more efficient and less costly on a per line basis. For example, improvements in digital loop carrier equipment have moved the efficient breakpoint for provisioning with fiber feeder ever closer to the central office, reducing the amount of copper feeder invested in the outside plant. In addition, increases in customer demand since the mid-1990's would produce economies of scale in the outside plant facility by allowing more customers to share outside plant cable and structure. Because the BellSouth cost studies rely on outdated data, none of these added

[10] August 29, 1997 Rebuttal Testimony of James W. Wells on Behalf of AT&T in Docket No. 7061-U, page 25.

[11] Bell Communications Research Corp., BOC Notes on the LEC Networks, 1994, page 12-9.

efficiencies are incorporated into the costs. As such, these costs are overstated. As explained in the Declaration of Michael Lieberman (¶ 7 n.3), loop costs appear to have fallen by 51% since 1996.

36. *Fill Factor.* The BellSouth Louisiana cost study inflates UNE loop rates by assuming an unrealistically low metallic distribution fill factor of only 41 percent. The Louisiana commission provides no explanation for adopting such a low distribution fill factor. *See* LPSC 2001 Order at 9-10. Nor could it. The 41% fill factor is well below the fill factor used in other jurisdictions, and by the Commission's Synthesis Cost Model. For instance, the Kansas Corporation Commission directed the Southwestern Bell company to us a 53 percent fill factor, explaining that 53% "represent[s] reasonable utilization rates on a long-term forward-looking basis." KCC Inputs Order at A-27. *See also Kansas/Oklahoma 271 Order* ¶ 80 (rejecting a 30% fill factor and noting that the FCC has adopted fill factors ranging from 50% to 75%). Likewise, the New York Public Service Commission adopted a 50% fill factor. *See, e.g.*, Tenth Report and Order, *Federal-State Joint Board on Universal Service*, CC Docket Nos. 96-45 & 97-160, 14 FCC Rcd. 20156, 20369 (1999). An the mid-point of the distribution fill factors adopted by Massachusetts is 52.5%. Thus, a more appropriate, but still conservative, distribution fill factor for would be at least 50%. That means BellSouth's Louisiana fill factors inflate UNE loop rates by about 6%.

V. CONCLUSION

37. BellSouth's cost studies overstate BellSouth's UNE costs in both Georgia and Louisiana by violating numerous fundamental TELRIC principles, including the use of a non-TELRIC "reproduction" rather than a "replacement" cost model, and significantly inflated

loading factors. In addition, BellSouth's cost models rely on myriad flawed loop- and switch-specific assumptions that further inflate those costs.

VERIFICATION PAGE

I declare under penalty of perjury that the foregoing Declaration is true and correct.

Michael R. Baranowski

Michael R. Baranowski

Executed on: October 19, 2001